SAFEGUARDING YOUR FOOD AND DRUG SUPPLY-- NO. 31

A radio talk by W. W. Vincent, chief of the western district, Food and Drug Administration, U. S. Department of Agriculture, delivered January 22, 1931, through KGO, San Francisco, and associated National Broadcasting Company stations, at 12:30 p.m., Pacific Time.

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Good Morning, folks! Today I shall tell you more about one of our oldest food products. You know I am your Government representative who each week has been telling you something about your foods and drugs and how the Federal food and drugs act serves to protect you. When I started to give these talks I thought six weeks would serve to acquaint you with what your Food and Drug Administration is doing. I was mistaken. This is my thirty-first talk. I haven't yet mentioned many of our food and drug commodities. Each talk has added new names to our roll of label readers and, [illegible] I want to tell you that the interest you are exhibiting in this label reading business is beginning to make its influence felt. I find that some manufacturers are considering ways and means of giving you more information about their food products, information that is valuable to you, information which you as an intelligent consumer are entitled to receive.

Two weeks ago, I talked about vegetable oils and I told you something about olive oil,, of its use more than 3,000 years ago. Perhaps I should have talked about olives first. Accounts of the first cultivation of the olive are lost in antiquity, but certain facts tend to indicate the birthplace of the cultivated product as Syria. Very early, it became a symbol of peace and goodwill. Its propagation early spread throughout the Mediterranean countries and Pliny, the Roman naturalist, makes reference to some 15 varieties cultivated in his time, the first Century A. D. I won't take time to trace the olive's distribution throughout the world, but, today, we find the fruit growing not only in Mediterranean countries, but likewise in Cape Colony, the Southern-most part of Africa; in Chili, Mexico, and the United States, not to mention China and far Queensland, Australia. Olive culture in the United States can be said to be limited to California and Arizona. Spanish priests planted the first grove at San Diego in 1769. The fruit proved popular. About 100 varieties have been introduced into California, produced on more than 28,000 bearing acres. Ten or 12 varieties constitute the majority. California's production of canned ripe olives in 1929 totaled 635,000 cases, not to mention something over 300,000 gallons of olive oil. Last year this country imported something over 6,955,000 gallons of olives. This olive business is a large business and your Food and Drug Administration takes a lot of interest in it.

Do you know that all the olives you receive are pickled olives? Pickling, as applied to food, means preserving the products either in brine or in vinegar. That statement will surprise some-- especially those who never partook of a fresh olive. That extremely bitter principle found in all fresh olives is what we chemically term a glucoside - Oluropein is its name - and the pickling process accorded is primarily for the purpose of breaking down or destroying this bitter substance in order that the

product may be made palatable.

I could tell you many stories about olives, stories that would fascinate you, stories that might shock you, but I am not going to do that. I am going to assure you that ripe olives are today a safe food product. Many of you listening to me do not eat ripe olives. You heard of the botulism outbreaks, the last of which, attributable to olives, occurred in 1924. There were three outbreaks that year. A great deal of publicity resulted throughout the United States. The ripe olive market was practically destroyed. My friends, here's something you don't know. Your Food and Drug Administration has always, wherever a botulism outbreak occurred in commercially canned food, immediately thereafter had their representatives in the factory checking up on the shipments made. We have caused the withdrawal from the market of every can wherever a particular lot was suspected. Following the last outbreak in 1924 your Federal food authorities in cooperation with State and municipal authoritiesmade a survey of the retail markets all over the United States. They caused the withdrawal from sale and destruction of every abnormal appearing can of olives that was anywhere to be found. Over 2,900 questionable containers were received in our Washington laboratory and examined. They represented the output of some 19 packers and many bore the labels of various wholesale grocers. Remember, these cans were defective or abnormal and yet not a single can was found which was infected with the Bacillus botulinus. The poisoning outbreaks that occurred prior to 1924 resulted from ignorance. It was not known for what period of time and at what temperature ripe olives should be proccessed in order to insure sterility and safety. Once that was learned, ripe olives took their proper place among commercially canned foods. I have no hesitancy in eating ripe olives, do upon frequent occasions, and want you to feel, in the event you like them, as secure with respect to this commodity as you do with other canned fruits or vegetables. I should tell you that the cooking of ripe olives at high temperature and pressure is a very important matter and to insure that it is done properly the California State Board of Health ruled that such could be done only under their supervision, and no lot is permitted to leave the cannery until the cooking records have been passed upon by the state inspectors. The state cooking requirements insure sterility.

I shall tell you of the different styles of olives that are available to you on the American market --- tell you how your Food and Drug Administration watches over the quality of those that are imported ---- tell you how your State and Federal authorities supervise and watch the output of those pickling and selling ripe olives in the United States and, further, you should know that not all green olives are imported from Spain. Increasing quantities are being produced in California. You should know what varieties constitute the most desirable ripe olives and what the grades established by the California Olive Association mean. They can be said to be representative for California ripe olives.

The principal varieties in the approximate order of their importance

for canning or pickling purposes are the Mission, the Manzanillo, Ascolano and the Sevillano. These four varieties probably represent 95% of olives packed. The Mission olive you will generally find so labeled because it is considered a superior olive. When ripe, it generally has a higher oil content than the other varieties named. The oil content is an index of maturity in olives. The minimum oil content of a ripe Mission olive very closely approximates 17%, while some will go as high as 25%. Generally speaking, the Mission is a small olive, the short diameter usually between 10/16 to 12/16 of an inch. Manzanillo, a variety introduced from Spain, is similar to the Mission in size. Its oil content averages about 2% less than the Mission. You generally find them labeled as to variety. The Ascolano and the Sevillano are larger olives, running from 3/4 inch to an inch across the short diameter. It is probably the Sevillano variety that you know as the Queen, or green-pickled olive, from Spain. These two latter varieties, as harvested for pickling, contain considerably less oil content than do the Mission and Manzanillo. Although of lesser food value by reason of the relatively lower oil content than the smaller olives mentioned, they generally command a higher price because of size and appearance.

In the preparation of ripe olives, they are first graded to size and possibly color, placed in pickling tanks from 2 to 4 feet deep, submerged in caustic soda, (a lye solution of from 1 to 2% strength) for a period of about eight hours, the liquor then drained off and the olives exposed to the air for about 24 hours with occasional stirring. This operation may be repeated as many as four times if necessary. It ceases when the lye can be said to have reached the pit, which is indicated by a darkening of the flesh. The lye is then drained off and fresh water added to the vat. This is changed at such intervals as are necessary to wash out the lye. My friends, it is that lye treatment that has broken down or destroyed the "Oluropein" or bitter principle which I mentioned earlier. After washing out the lye, salting of the olives is begun. This is accomplished by soaking in brine solutions of gradually increasing strength up to about 4% of salt for varying intervals of time. After grading, the olives are placed in cans, covered with brine solution, sealed and cooked.

The pickling process accorded green olives is quite similar to the ripe. They are, of course, picked before any yellow color shows. Usually, two lye treatments are given and there is no exposure of the olives to the air because they don't want any darkening of the fruit which is sought by the producer of ripe olives. Following the lye treatments, the green olive is given an after-fermentation in a brine solution of about 7%, to which may be added a small amount of sugar, vinegar or lactic acid. It is that fermentation which develops the olives peculiar flavor or piquancy. Do you know what a "Greek Style" olive is? They produce some in California. It is the black salted olive which comes to the United States in enormous quantities from Italy, Greece, Spain, Algeria and Syria. They are prepared by placing the ripe olives in vats or barrels, together with about 10% salt. The salt makes a brine with the juice of the olive. This is drained off. The operation may be repeated once or twice. When curing or pickling is complete, the olives are washed to remove the excessive salt and the product shipped in barrels either with or without a brine solution. Some of these black olives offered for entry into the United States are of rather poor quality. Material quantities have, upon occasion, been found contaminated with worms and your Food and Drug Administration has excluded from

entry many such importations.

Following are the commercial grades of California ripe olives as produced by the member firms of the California Olive Association. I state them in order of size, the largest olives take the names

1. "Collosal" - The average number of olives per pound is 40
2. "Jumbo" - " " " " " " " " 50
3. "Giant" - " " " " " " " " 60

It is in the three grades mentioned that you generally receive the Ascolano and Sevillano varieties. Those of less oil content.

Following comes the

4. "Mammoth" - The average number of olives per lb. is 70
5. "Extra Large" " " " " " " " " 82
6. "Large" - " " " " " " " " 98
7. "Medium" - " " " " " " " " "113
8. "Seconds" include all smaller than "Medium" grade. (Evidently, the man who selected these grade names was addicted to the use of superlatives).

All olives sold or labeled as ripe olives must be ripe before pickling. According to the Federal Food and Drug Administration, that means, if of the Mission variety, they will contain no less than 17% of oil in the flesh, and the Manzanillo variety will contain no less than 15% of oil in the flesh. Should they contain less than these amounts of oil, the olives would be regarded as immature and not entitled to be labeled, "Ripe". To date, the Department of Agriculture has issued no maturity standard for the Ascolano and Sevillano varieties. Ripe olives are both black and brown in color and are considered of equal quality. They are usually segregated by the packer-- that is, they are graded to color. Olive packers consider the texture of their fruit very important and under leading brands you find no material percentage of processed olives that are considered soft. When you buy olives, read the label. Many packers picture on the label the average size of the olive within the can and, in addition, some tell you approximately how many olives are in the can. The net weight statement will represent the drained weight of olives within the can exclusive of brine. When packed in glass, it is frequent that the containers used are of such shapes that, when filled to capacity, there is no material difference between the volume of the drained product and the liquid measure of the container. On this type of package, we consider it satisfactory if packers declare the net contents in terms of liquid measure of the drained olives.

You may encounter California olives upon which the word "Bordelaise" appears. That, my friends, is prepared by special process. The flavor of garlic characterizes such a product.

This concludes my thirty first talk. You should be interested in the read the label information I am distributing free to all those who drop a post card to W. W. Vincent, care this station, or U. S. Food and Drug Laboratory, San Francisco. Importers of American products in Cape Town, South Africa, have written me for permission to re-broadcast my talks to the South African public. Certainly if they are interested in making discriminating buyers of the South Africans, you should likewise desire to make not only yourself but your children discrininating in the purchase of their food and drug commodities. That's all today. Next week more about pickles.-- sweets, dills and gherkins. I will tell you a story.